

Appl. No. 10/724,570  
Amdt. Dated July 20, 2006  
Reply to Office Action of July 20, 2006

Attorney Docket No. 81788.0263  
Customer No.: 26021

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to FIG. 8. This sheet, which includes FIG. 8, replaces the original sheet including FIG. 8. Applicant adds the label "Prior Art" to FIG. 8.

An **Appendix** including amended drawing figures is attached following page 19 of this paper.

Attachment: Replacement Sheet  
Annotated Sheet Showing Changes

**Remarks:**

This is in response to the Office Action dated January 20, 2006. Claims 1-8 and 11-17 are pending. Reexamination and reconsideration are respectfully requested.

The Office Action required an amendment to the drawings. Applicant amends the drawings according to the Office Action's instructions.

The Office Action objects to page 21 of the specification in its description of FIG. 3d. Applicant amends the specification to address this comment. Applicant also amends the specification to correct a spelling error.

The Office Action rejects claim 18 as not being enabled. This rejection is incorrect. There is no basis in statute or rule for the Office to set forth a non-enablement rejection based on the species selected in response to a restriction requirement. The application as a whole is judged for purposes of enablement and there is no suggestion that the specification as a whole is not enabled. Applicant will treat this rejection as an indication that applicant's maintenance of claim 18 is inconsistent with applicant's election. Applicant cancels claim 18 consistent with the earlier election.

The present application describes an unexpected configuration by which a stripe laser can produce self-sustained pulsation and improved operating characteristics operating in an absorption saturated mode. In particular, when the width of the upper edge of the stripe is comparatively extended or the side edges of

the stripe are close to perpendicular to the lower edge, a greater portion of lateral cross-sectional area has a high gain. The gain is dispersed over a wide area, and the peak strength of the gain is suppressed. At the same time, the absorption of the active layer 3 becomes comparatively high, thereby facilitating self-sustained pulsation.

Applicant amends independent claims 1 and 11 to include the limitations of prior claim 9. The Office Action rejected prior claim 1 as anticipated by U.S. Patent No. 6,757,311 to Abe but did not reject prior claim 9 over the Abe patent. Applicant consequently submits that claim 1 distinguishes over the Abe patent.

Applicant further notes that the Abe patent neither teaches nor suggests forming a stripe shaped second conductive type second claim layer as recited in claim 1. The Abe patent provides no teaching on the relevant widths and provides no teachings with respect to the angle formed between the side edges of the stripe and the lower edge of that stripe. In fact, the Abe patent teaches away from the structures described in the present application at its column 6, lines 60-67, in which the Abe patent teaches that a broad top edge (SW in the Abe patent) increases the "kink level" and is predicted to provide poor performance.

The Office Action rejected prior claims 1 and 9 as anticipated by patent publication US 2001/0043632 to Ohya, et al. Applicant submits that the Ohya publication does not meet current claim 1 and did not meet either of prior claims 1 or 9. The Ohya publication describes a second conductivity type, second clad layer

107 but provides no discussion of the relative dimensions of the upper and lower edges of that structure. From the figure (which is unlikely to be accurate), the second conductivity type, second clad layer 107 has an upper edge that is about 57% the size of the lower edge. The disclosure is silent as to the technique used for etching the second clad layer 107, so it is likely the conventional wet etching. As discussed in the present application, that conventional wet etching process does not produce stripes that meet the dimensional recitations of prior claim 1. Nor is there any suggestion that would lead one to alter the teachings of the Ohya publication to produce a structure like that recited in prior claim 1 or the pending claim 1.

The Office Action has identified layer 108 of the Ohya publication as a second conductivity type, second clad layer. This is incorrect. As discussed above, layer 107 is the second conductivity type, second clad layer. Layer 108 of the Ohya publication is p-type (i.e., the second conductivity type), but is an intermediate layer on top of the layer 107. It would be improper for the Office Action to ignore layer 107. Applicant presumes this is an error in the Office Action.

Thus, as discussed above, the Ohya publication fails to teach the limitations of pending claim 1 and claim 1 distinguishes over the Ohya publication whether considered alone or in combination any other reference of record.

Consequently, claim 1 and its dependent claims 2-8 distinguish over the art of record and are in condition for allowance.

Claim 11, as amended, recites a relationship between the angles of the side edges of a second conductivity type, second clad layer. As discussed above, the Abe patent neither teaches nor suggests these recited limitations. Moreover, as discussed above, the Abe patent teaches away from the structures described in the present application. As such, claim 11 distinguishes over the Abe patent, whether taken alone or in combination with another reference.

Claim 11 also recites the dimensional limitations for the second conductivity type, second clad layer discussed above with respect to the Ohya publication. Because the Ohya publication does not teach or suggest these limitations, claim 11 also distinguishes over the Ohya publication, whether taken alone or in combination with other references.

Consequently, claim 11 and its dependent claims 12-17 distinguish over the art of record and are in condition for allowance.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 785-4600 to discuss the steps necessary for placing the application in condition for allowance.

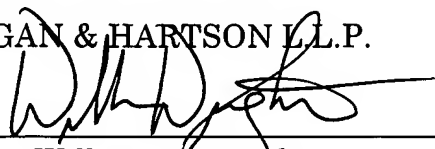
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If there are any fees due in connection with the filing of this response, please  
charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,  
HOGAN & HARTSON LLP.

Date: July 20, 2006

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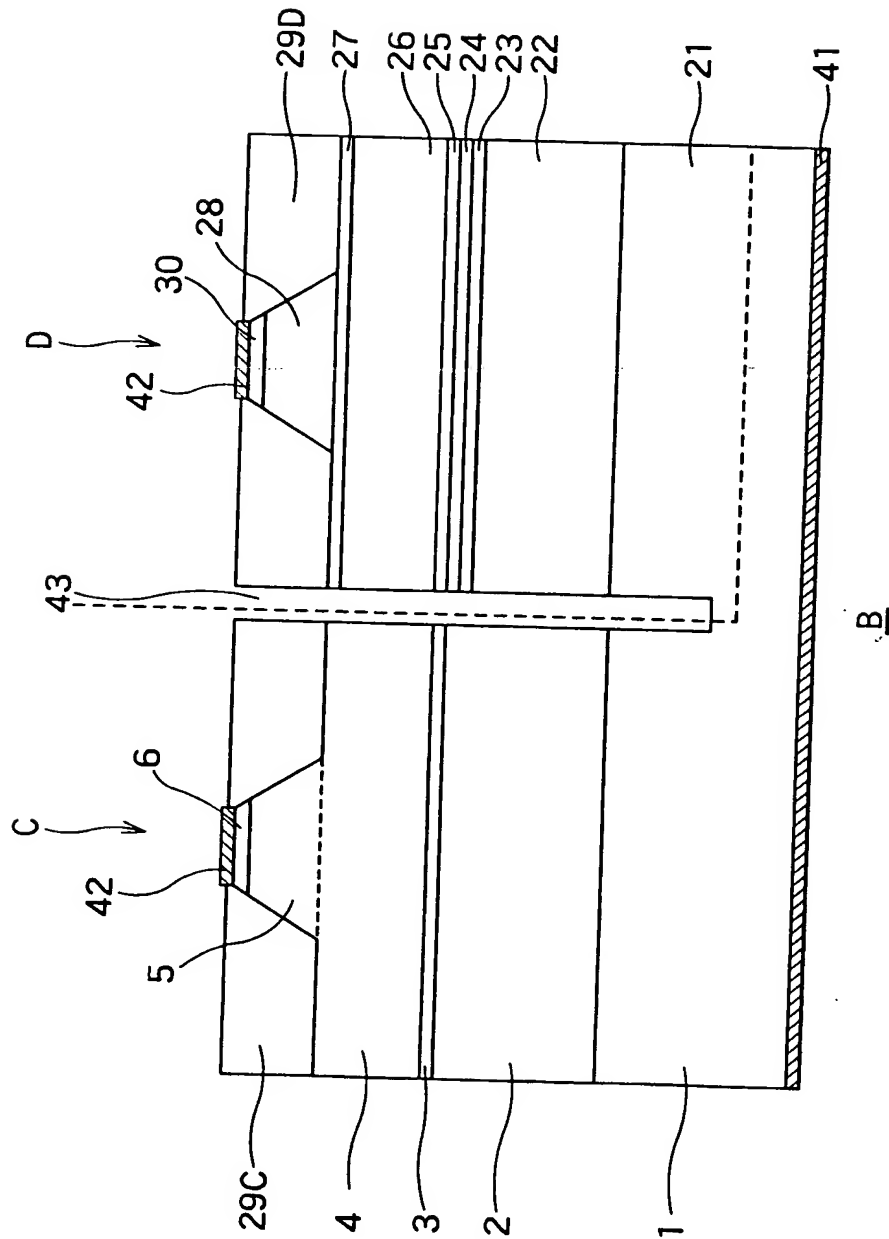


FIG. 8 PRIOR ART